

Luetzgen et al. discloses the invention substantially the same as claimed: metal base 18 or 47a, wall 12, vent hole 31 or 34, cap 14 or 16, etc. However the reference does not disclose the walls being polymer and silicon gel.

Applicant respectfully disagrees. The Luetzgen et al. patent does not suggest the combination of elements of Applicant's independent claims 23, 34, and 36. One feature not suggested by the Luetzgen et al. patent is configuring the pressure sensor or housing so that the pressure transducer is or can be placed upon a lead which extends through a wall of the chamber. The Luetzgen et al. patent discloses a pressure sensing element 32 bonded to a block of borosilicate glass, which is then in turn mounted and glued to a top surface of the bottom cover member 18. The metal or ceramic bottom cover member 18 is subsequently adhesively attached to the main housing member to close the bottom of chamber 22 and form a hermetic seal. See the Luetzgen et al. patent, col. 6 lines 23-47. Luetzgen does not suggest placement of the transducer on a lead. Since the Luetzgen et al. patent does not suggest the combination of features specified in independent claims 23, 34, and 36, the Luetzgen et al. patent cannot render these claims and their dependent claims obvious.

Even though other references such as the Ishibashi patent illustrate that a transducer attached to a pedestal can be placed on a lead, there is no suggestion to place a pressure transducer onto a lead without including a pedestal. The Takahashi et al. patent summarizes the reason that a pedestal is used:

[I]n order to produce an accurate pressure sensor, a silicon pedestal made of the same material as the material for the silicon chip or, of [sic] example, a pyrex glass pedestal having substantially the same linear expansion coefficient as that of the silicon chip is integrally molded with the silicon chip, the thus molded pedestal being die bonded to the lead frame or the stem so that the residual stress is reduced.

Takahashi et al. patent, col. 2 lines 6-13.

Other references support Takahashi's statement that a pedestal is needed to obtain accurate pressure measurement where the base upon which the pressure transducer is to be mounted is a lead. The references cited by the Examiner in the April 10, 1997 Office Action which illustrate a pressure transducer all note the presence of a pedestal upon which the pressure transducer is mounted (borosilicate glass 33 in the Luetzgen et al. patent, col. 6 lines 33-37; glass Pyrex block 1 in the Ishibashi patent, col. 4 lines 7-10; pressure sensor chip 1 is placed on a pedestal 5 and secured to the surface of a die pad 7, Takahashi et al. patent col. 3 lines 40-43; the Yamanaka patent discloses a charge-coupled device and not a pressure sensor).

Because all of the features of Applicant's claims 23-44 are not suggested in the Luetzgen et al. patent, this patent does not render claims 23, 34, and 36 obvious. The Ishibashi patent or like references also fail to suggest combining each of the features of Applicant's claims 23, 34, and 36. Since the references do not suggest Applicant's combination of features, Applicant's independent claims 23, 34, and 36 and their dependent claims are patentable over the references.

The Examiner's citation of the Ishibashi, Takahashi et al., and Yamanaka patents is noted. However, it is believed that these references are no more pertinent than what has already been discussed.


Applicant's claims are patentable over the cited references as noted above. In the event the Examiner believes that a discussion would facilitate resolving any questions or issues, the Applicant's representative is available for such discussion.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions

for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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